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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,125	11/27/2001	Albin Czemichowski	SYNE1100	9752

25094 7590 05/07/2003

GRAY, CARY, WARE & FREIDENRICH LLP
1221 SOUTH MOPAC EXPRESSWAY
SUITE 400
AUSTIN, TX 78746-6875

EXAMINER

ALEMU, EPHREM

ART UNIT PAPER NUMBER

2821

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,125

Applicant(s)

CZERNICHOWSKI ET AL.

Examiner

Ephrem Alemu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-25 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 9-11 and 19-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: replace "symetric" with --symmetric—for the misspelled word "symetric". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1- are rejected under 35 U.S.C. 102(b) as being anticipated by Klopotek et al. (US 5,043,636).

Re claims 1 and 2, Klopotek discloses a device (i.e., high voltage switch system 10) comprising:

- a plurality of primary electrodes (i.e., terminal electrodes 20, 24) (Fig. 1);
- a secondary electrode (i.e., intermediate electrode 20) positioned between the plurality of primary electrodes (i.e., terminal electrodes 20, 24) (Fig. 1);
- a first circuit for supplying power (i.e., high voltage source 30) to the plurality of primary electrodes (i.e., terminal electrodes 20, 24) (Fig. 1; Col. 1, lines 40-48; Col. 3, lines 14-24); and
- a second circuit (i.e., pulse generating unit 32) for supplying power between the secondary electrode (i.e., intermediate electrode 20) and alternate ones of the primary electrodes (i.e., terminal electrodes 20, 24) (Fig. 1; Col. 1, lines 40-48; Col. 3, lines 25-38; wherein the first circuit is independent of the second circuit and wherein the second circuit (i.e., pulse

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generating unit 32) is configured to apply pulses of high voltage between the secondary electrode (i.e., intermediate electrode 20) and alternate ones of the primary electrodes (i.e., terminal electrodes 20, 24)).

Re claims 3 and 4, Klopotek further discloses the primary electrodes (i.e., terminal electrodes 20, 24) are symmetric about a central axis the secondary electrode is positioned on the central axis (Fig. 1).

Re claim 5, Klopotek further discloses the primary electrodes comprise one or more pairs of primary electrodes (i.e., terminal electrodes 20, 24) (Fig. 5; Col. 7, lines 1-6).

Re claims 7 and 8, Klopotek further discloses that the time between pulses is less than the duration of a discharge between a pair of primary electrodes (i.e., terminal electrodes 20, 24) (Col. 3, line 40- Col. 4, line 54; wherein the duration of each pulse is sufficient to produce a single spark per pulse).

Re claims 12-18, given Klopotek device (i.e., high voltage switch system 10) as discussed above in claims 1-8, the method as claimed in claims 12-18 is inevitable.

Allowable Subject Matter

4. Claims 22-25 are allowed.
5. Claims 9-11 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fail to teach or suggest the following limitations "a reaction chamber; wherein the

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reactor is configured to produce pilot discharges between the secondary electrode and alternate ones of the primary electrodes, wherein the pilot discharges produce ionization paths through a gas in the reactor and primary discharges between the primary electrodes are established along the ionization paths” in a manner claimed in claims 22 and 25; “a voltage applied by the second circuit between the secondary electrode and the primary electrodes is at least about 10 times greater than a voltage applied by the first circuit between the primary electrodes” in a manner claimed in claims 9 and 19; “the secondary electrode is star-shaped, wherein each arm of the star extends toward a corresponding one of the primary electrodes” as claimed in claims 10 and 20; and “the secondary electrode being tapered, such that a first end of the secondary electrode is closer to the primary electrodes than a second end of the secondary electrode” as claimed in claims 11 and 21.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Czernichowski et al. (US 5,993,761); Ari et al. (US 4,661,763); and Mogensen et al. (US 3,863,107); also teach similar inventive subject matter.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (703) 306-5983. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K Wong can be reached on (703) 308-4856. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EA
5-05-03


Don Wong
Supervisory Patent Examiner
Technology Center 2800